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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,419	07/25/2001	Tomoyuki Oshiyama	826.1737	4145

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EXAMINER
YANG, RYAN R

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 April 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
     closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6,8-24 and 27-34* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *8-14,17-22,28,30 and 31* is/are allowed.

6)☒ Claim(s) *1-4,6,15,16,23,24,27,29 and 32-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All b)☐ Some * c)☐ None of:

     1.☐ Certified copies of the priority documents have been received.

     2.☐ Certified copies of the priority documents have been received in Application No. _____.

     3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
          application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to communications: Amendment, filed on 4/20/2005.

This action is final.

2.   Claims 1-4, 6, 8-24 and 27-34 are pending in this application. Claims 1-4, 6, 11,

13, 15, 22, 23 and 27-34 are independent claims. In the Amendment, filed on

4/20/2005, claims 1-4, 6, 11, 13, 15, 22, 23 and 27-33 were amended, claims 5, 25 and

26 were canceled, and claim 34 was added.

3.   This application claims foreign priority dated 2/22/2001.

4.   The present title of the invention is "Image generation system, image generating

method, and storage medium storing image generation program" as filed originally.

Claim Rejections - 35 USC § 103

5.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

6.   Claims 1-4 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over

Kumagai (5,809,240) and further in view of Bacus et al. (6,226,392).

7.   In regard to claim 1, Kumagai explicitly teaches an image generating system

which generates or edits an image using a plurality of image generation devices,

comprising: a division unit dividing a target image into a plurality of divided images (FIG.

1, FIG. 5, FIG. 3, No. 11a; Col. 2, line 60 – Col. 3, line 43; Col. Col. 6, lines 45-57). A

graphics data is stored in one workstation, wherein a plurality of workstations can

access the same graphics data over a network and said graphics data is divided and

sent to each networked workstations in order to facilitate manipulation of said graphics data in portions by said plurality of workstations.

Kumagai also teaches a providing unit providing a reference image corresponding to the target image to be displayed on the plurality of image generation devices (Col. 4, line 50 – Col. 5, line 4). Kumagai explicitly teaches allowing any and all portions of the original graphics data to be displayed on all workstations in order for each workstation to check the progress of the other workstations. Said displaying all portions of the original graphics data being manipulated specifically is providing a reference image corresponding to the target image.

Kumagai explicitly teaches distributing a plurality of divided images obtained by said division unit to corresponding image generation devices, and distributing the reference image to the image generation devices (FIGS. 3-5 and Col. Col. 6, lines 45-57). The graphics data is clearly divided and distributed to specific workstation. In addition, as applied above, any or all of the original graphics data is also displayed on each workstation, which specifically is a reference image.

Kumagai explicitly teaches displaying the divided image and the reference image in the image generation device (FIGS. 5 and see paragraph 6 above).

Kumagai explicitly teaches merging the resultant manipulated graphics data taken from the plurality of workstations (Col. 3, lines 31-43). Said merging divided graphics data specifically is integrating divided images generated by the plurality of image generation devices. Said merging must be performed by either a hardware or software.

Kumagai discloses an image generating system using segmented images. It is

noted that Kumagai does not explicitly disclose "the plurality of divided images and the

reference image being substantially simultaneously displayed using the corresponding

image generation devices", however, this is known in the art as taught by Bacus et al.,

hereinafter Bacus. Bacus discloses an image analysis method in which the reference

image and segmented image are displayed simultanelusoly (Figure 2, item 310 as

reference image and 312, 314 and 316 as segmented imaged).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate

the teaching of Bacus into Kumagai because discloses an image generating system

and Bacus discloses the reference image segmented image can be simultaneously

displayed in order to assist analysis.

8.   In regard to claim 2, the limitations of the instant claim are recited in claim 1

above in identical language, and thus the same basis and rationale for claim rejection

as applied to claim 1 are applied. The recitation, an image distribution device for use in

an image generation system, which generates or edits an image using a plurality of

image generation devices, has not been given patentable weight because the recitation

occurs in the preamble. A preamble is generally not accorded any patentable weight

where it merely recites the purpose of a process or the intended use of a structure, and

where the body of the claim does not depend on the preamble for completeness but,

instead, the process steps or structural limitations are able to stand alone. See *In re*

Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150,

152, 88 USPQ 478, 481 (CCPA 1951). Kumagai explicitly teaches an image distribution

device since the graphics data is divided and distributed to a plurality of workstations as applied to claim 1 above.

9.   In regard to claim 3, Kumagai explicitly teaches a plurality of workstations (see claim 1 above), which specifically are a plurality of image generation devices for use in an image generation system, which generates or edits an image using the plurality of image generation devices. In addition, each workstation comprises a display unit (FIG. 5) receiving from an image distribution device (workstation 1, where the graphic data is stored) a divided image obtained by dividing a target image and a reference image corresponding to the target image and displaying the divided image and the reference image (see claim 1 rejection). Furthers, Kumagai explicitly teaches in FIG. 3, a data division and data manipulating unit (11a), a command processing unit for processing commands entered at a keyboard, such as, Add, Delete, and Move commands (11b), a display window managing unit for managing areas of graphic data to be manipulated by the workstations (11c), an event managing unit for handling events entered using the mouse or keyboard (11d), a graphic displaying unit for outputting graphic data to a display (11e), and a message processing unit for handling messages to be output to the display. Thus, the image is divided and distributed to the plurality of workstations, which specifically is transmitting the image using a transmission unit (Col. 7, line 52 – Col. 8, line 10).

10.   In regard to claim 4, Kumagai explicitly teaches a method of generating an image by generating or editing an image using a plurality of image generation devices as applied to claim 1 above. The limitations of the instant claim is almost identical in

language as claim 1, with the only difference being that the instant claim recites a

method which comprises the same function as the system recited in claim 1. In

addition, the preamble is not given patentable weight (see claim 2 above). Further,

Kumagai teaches a program for performing said limitations of the claims since a

program is a set of executable commands performed by the processor, and Kumagai

explicitly teaches an application program (3) and FIGS 6A-C explicitly shows a graphical

user interface program for performing the functions of the graphics system.

11.   In regard to claim 6, the same basis and rationale for claim rejection as applied to

claims 4-5 are applied. A program must be stored in a storage medium and Kumagai

explicitly teaches a data memory (12) in communication to a processor.

12.   Claims 15-16, 23-24, 27 and 29, 32-33 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Srinivasan et al., U.S. Patent No.: 6,357,042 in view of

Kumagai, and further in view of Matthews, U.S. Patent No.: 6,701,012, and further in

view of Bacus et al. (6,226,392).

In regard to claim 15, Srinivasan et al. explicitly teaches editing video data using

a plurality of authoring (editing) stations for tracking separate image editing for each

authoring station (FIGS. 7-8, 15 and Col. 12, line 46 – Col. 15, line 48). Each authoring

station tracks a separate image from the video stream, wherein said image is edited by

adding text, icons, etc. In addition, since said video stream is MPEG encoded (FIG. 1

and Col. 5, line 66 – Col. 6, line 52), time series information is included in the video

stream for properly ordering the image frames in the video stream. Further, FIG. 15

explicitly shows image frames having corresponding time series data, wherein said time

series data is used to identify each image frame. Said images generated on the display

(FIG. 15) specifically are displayed according to the time series information. Thus,

Srinivasan et al. explicitly teaches **dividing** video streams into a plurality of image

frames for independent image editing; **distributing** time series information defining a

moving picture to be generated together with divided image to a corresponding image

generation device; and generating (displaying) a plurality of divided images

corresponding to the received divided images according to the time series information.

Srinivasan et al., however, does not explicitly teach dividing each image frames

into a target image and into layers; distributing said divided images to corresponding

image generating devices; generating or editing a divided image corresponding to the

received divided image in each image generation device; and integrating divided said

divided images.

Kumagai teaches an image generation system as applied to claim 1 above,

wherein said image generation system comprises a distribution unit and an integration

unit as recited in the instant claim. In addition, a generation unit specifically is identical

to the display unit as recited in claim 1. Kumagai also teaches a division unit having a

function of dividing a target image into a plurality of areas.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to take the teachings of Srinivasan et al. and to add from Kumagai the method

of dividing each image frame and distributing them to a plurality of workstations in order

to divide the image editing work and thus performing a plurality of image processing in

parallel. Said parallel processing allows the image processing to be completed faster

and thus requires less processing power and the work is completed faster. Since

Srinivasan et al. teaches separating a video stream into a plurality of image frames, it

would be an obvious modification to further divide each image frame into a plurality of

image portions, which will speed up image editing process as taught by Kumagai.

Further, by applying the image dividing method to a video stream, the image frames

displayed (FIG. 15) as taught by Srinivasan et al. are comprised of divided images,

which are edited separately and then integrated as taught by Kumagai.

Kumagai teaches merging said divided images from a plurality of workstations

after each workstation performs image editing, which specifically is integrating divided

images being generated from respective image generation devices. Further, Kumagai

explicitly teaches displaying the progress of the image edition from the rest of the

workstation on each workstation, which specifically is transmitting an image integrated

by said integration unit to each image generation device.

Both Srinivasan et al. and Kumagai do not explicitly teach dividing the target

image into layers when the target image is formed by a plurality of layers. Said dividing

the target image into layers, however, is well known in the art. An analogous art,

Matthews, explicitly teaches decomposing images into separate layers (FIGS. 1-2; Col.

4, line 16 – Col. 5, line 33). Each layer contains specific data types (data, lines,

photographs), and thus the background layer may contain the photograph and the

foreground layer contains text.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to take the teachings of Srinivasan et al. and Kumagai and to modify it by

adding from Matthews the method of decomposing an image into layers in order to separate the image into a foreground layer comprising texts and a background layer comprising photographic data. This is particularly useful when storing or transmitting images. By separating the image into layers, each layer can be compressed and transmitted to a plurality of workstations using less bandwidth and stored using less storage space. Thus, the modification of Matthews improves transmission and storage efficiency, which improves the speed of image processing system of Kumagai.

Srinivasan, Kumagai and Matthews disclose an image generating system using segmented images. It is noted that Srinivasan, Kumagai and Matthews do not explicitly disclose "the plurality of divided images and the reference image being substantially simultaneously displayed using the corresponding image generation devices", however, this is known in the art as taught by Bacus et al., hereinafter Bacus. Bacus discloses an image analysis method in which the reference image and segmented image are displayed simultaneously (Figure 2, item 310 as reference image and 312, 314 and 316 as segmented imaged).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Bacus into Srinivasan, Kumagai and Matthews because discloses an image generating system and Bacus discloses the reference image segmented image can be simultaneously displayed in order to assist analysis.

13.   In regards to claim 16, Srinivasan et al., Kumagai, Matthews and Bacus teach the system according to claim 15. In addition, Kumagai explicitly teaches a workstation management table (32), which specifically controls which divided image is transmitted to

which workstation. Thus, said management table specifically is outputting a divided image being generated at an instruction form a source of the divided image or at each predetermined time interval.

14.   In regards to claim 23, Srinivasan et al., Kumagai, Matthews and Bacus teach all limitations as applied to claims 15 and 16 above. The limitations of the instant claim are identical to the combination of claims 15 and 16.

15.   In regards to claim 24, Srinivasan et al., Kumagai, Matthews and Bacus teach all limitations of claim 23. In addition, as applied to claim 1 above, Kumagai explicitly teaches displaying the merged image data on all workstation monitors, which specifically is displaying an image obtained by integrating divided images being generated by the image distribution device.

16.   In regards to claim 27, the same basis and rationale for claim rejection as applied to claims 15 and 16 above. The limitations of the instant claim are identical to claim 23 except for the feature, a storage medium. Kumagai explicitly teaches a plurality of storage devices (12, 13), wherein said program can be stored. In addition, all programs must be stored in a storage medium, and said storage medium is well known and obvious in the art.

17.   In regards to claim 29, the same basis and rationale for claim rejection as applied to claim 1 above. For the same reasoning applied to rejecting claim 27 above, Kumagai teaches a computer program product, and it is well known in the art to perform computer executable functions using a computer program.

18.   In regards to claims 32-33, the same basis and rationale for claim rejection as applied to claim 1 above. The limitations of the instant claims are directed to the same limitations as claim 1 above. An image generating system of claim 1 specifically is an image processing method of claims 32-33.

19.   Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumagai and Bacus et al. as applied to claim 1 above, and further in view of Stefik et al. (US 4,974,173).

       In regard to claim 34, Kumagai and Bacus disclose all the elements as applied to claim 1 above, except "correspondingly displaying the divided portion of the image and the reference image using the image generation devices, the reference image indicative of a change made to the image by at least one of the image devices"; however, this is known in the art as taught by Stefik et al., hereinafter Stefik. Stefik discloses an image editing system where the workspace can see activities by other users (Figure 1 where A or B are segmented images and 28 or 38 are reference images).

       Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Kumagai and Bacus because Kumagai and Bacus disclose a distributed editing environment and Stefik discloses the edited partial image can be updated in the reference and observed by other user in distributed environment in order to gain a perspective of changes made to an image.

Allowable Subject Matter

20.   Claims 8-13 and 17-22, 28, 30 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

As per independent claim 11, the closest prior art by Srinivasan et al., Kumagai or Matthews do not explicitly disclose "said distribution unit distributes time series information defining a time interval of each frame and a total number of frames of a moving picture to be generated together with the divided image to a corresponding image generation device" in the claimed setting.

As per claim 13, the closest prior art by Srinivasan et al., Kumagai or Matthews do not explicitly disclose "said distribution unit distributes image movement information including data indicative of an image element to be moved in a distributed image and data defining a basic movement, enlargement/reduction, rotation of the indicated image element together with the divided image to a corresponding image generation device" in the claimed setting.

As per claims 22 and 30, the closest prior art by Srinivasan et al., Kumagai or Matthews do not explicitly disclose said distribution unit or computer program product "distributes time series information defining a moving picture to be generated, data indicative of an image element to be moved in a distributed image and data defining a basic movement, enlargement/reduction, rotation of the indicated image element together with the divided image to a corresponding image generation device" in the claimed setting.

As per claims 28 and 31, the closest prior art by Srinivasan et al., Kumagai or Matthews do not explicitly disclose "transmitting a divided image being generated at an

instruction from said image distribution device or at each predetermined time interval,

wherein data indicative of an image element to be moved in a distributed image and

data defining a basic movement, enlargement/reduction, rotation of the indicated image

element together with the divided image" in the claimed setting.

Response to Arguments

21.   Applicant's arguments with respect to claims 1-4 and 6 have been considered but

are moot in view of the new ground(s) of rejection.

Applicant's arguments, see amendment, filed 4/20/2005, with respect to the

rejection(s)of claim(s) 1-4 and 6 under Kumagai have been fully considered and are

persuasive. Therefore, the rejection has been withdrawn. However, upon further

consideration, a new ground(s) of rejection is made in view of Kumagai and Bacus.

Claims 15-16, 23-27 and 29, 32-33 are newly rejected over Srinivasan et al., Kumagai,

Matthews, and further in view of Bacus et al. (6,226,392).

Conclusion

22.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within
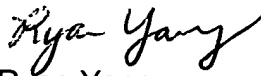
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan R Yang whose telephone number is (571) 272-7666. The examiner can normally be reached on M-F 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan Yang
July 29, 2005